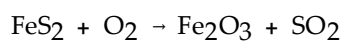


- 1) When a hydrocarbon burns in air, a component produced is _____. 1) _____
A) nitrogen B) carbon C) argon D) water E) oxygen
- 2) The reaction used to inflate automobile airbags _____. 2) _____
A) violates the law of conservation of mass
B) is a decomposition reaction
C) is a combustion reaction
D) is a combination reaction
E) produces sodium gas
- 3) The formula of nitrobenzene is $C_6H_5NO_2$. The molecular weight of this compound is _____. 3) _____
amu.
A) 3.06 B) 109.10 C) 107.11 D) 123.11 E) 43.03
- 4) The formula weight of ammonium sulfate ($(NH_4)_2SO_4$), rounded to the nearest integer, is _____. 4) _____
amu.
A) 264 B) 116 C) 132 D) 100 E) 118
- 5) How many molecules of CH_4 are in 48.2 g of this compound? 5) _____
A) 3.00
B) 5.00×10^{24}
C) 2.90×10^{25}
D) 1.81×10^{24}
E) 4.00

Answer the the following six questions by showing all of your calculations in the space provided. PARTIAL CREDIT WILL BE GIVEN. IF NO WORK IS SHOWN YOU WILL GET NO CREDIT

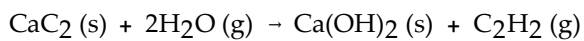
- 6) Propane (C_3H_8) reacts with oxygen in the air to produce carbon dioxide and water. In a particular experiment, 38.0 grams of carbon dioxide are produced from the reaction of 22.05 grams of propane with excess oxygen. What is the % yield in this reaction? 6) _____
A) 38.0 B) 86.4 C) 66.0 D) 57.6 E) 94.5

7) If 588 grams of FeS_2 is allowed to react with 352 grams of O_2 according to the following equation, how many grams of Fe_2O_3 are produced? 7) _____



8) Calculate the percentage by mass of lead in $\text{Pb}(\text{NO}_3)_2$. 8) _____
A) 44.5 B) 38.6 C) 71.2 D) 62.6 E) 65.3

9) Calcium carbide (CaC_2) reacts with water to produce acetylene (C_2H_2): 9) _____



Production of 6.5 g of C_2H_2 requires consumption of _____ g of H_2O .
A) 480 B) 4.5 C) 2.3 D) 9.0 E) 0.048